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The Political Economy of Growth and Distribution A Theoretical Critique

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The Political Economy of Growth and Distribution.

A Theoretical Critique

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Abstract

This paper reconsiders the political economy approach to growth and distribution according to which (1) rising inequality induces more government redistribution; (2) more government redistribution is financed by higher distortionary taxation; and (3) higher distortionary taxes reduce economic growth. We present a variety of theoretical arguments demonstrating that all three propositions may be overturned by simply changing an assumption in a plausible way or adding a relevant real-world element to the basal models. The political economy models of growth and distribution, as well as the specific inequality-growth transmission channel they propose, must therefore be assessed as overly simplistic and inadequate with respect to the issues studied.

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The Political Economy of Growth and Distribution.

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1. Motivation and course of analysis

One of the most commonly held prejudices among (mainstream) economists is that of an inherent and unavoidable trade-off between distributional equality and the supply of goods: You cannot divide the economic pie more equally and, at the same time, have more of it. This view appears to be theoretically well founded. In savings-driven growth models, such as the ones implicit in classical economists' writings, a more egalitarian pattern of (functional) income distribution involves a trade-off in terms of slower economic growth acting through a decline in national savings. In more recent neoclassical growth models of the Solow-Swan or optimal-capital-accumulation type, income distribution does not directly affect economic growth. But feasible policy instruments of redistribution are seen as distortionary and detrimental to savings and growth; or as a famous quote of Okun (1975, p. 91) puts it: "the money must be carried from the rich to the poor in a leaky bucket. Some of it will simply disappear in transit".

However, while apparently well founded in economic theory, this conventional wisdom has been fundamentally challenged by a – large and still increasing – number of recent empirical studies (surveyed e.g. by Bénabou (1996)) which, all in all, deliver a rather different message: (initial) inequality is detrimental to long-run economic growth. Stimulated by this evidence, as well as theoretical developments in intertemporal macroeconomics and public choice, the last decade has witnessed a resurgence of academic work on income distribution and economic growth. The recent literature has worked out three transmission channels through which inequality in income and/or wealth distribution actually slows down economic growth. The *economic* channel works through capital market imperfections because of which the poor are denied to the efficient amount of investment. With decreasing returns at the individual level, redistribution to the less endowed will then be growth enhancing since their marginal product is higher.¹ Secondly, according to Alesina and Perotti (1996) as well as Benhabib and Rustichini (1996), inequality may lead to *socio-political instability* which creates uncertainty regarding the

¹ Seminal papers within this subset of theories include Galor and Zeira (1993); Banerjee and Newman (1993); Bénabou (1996) as well as Aghion and Bolton (1997).

political and legal environment, disrupts market activities and labor relations and, thus, has a detrimental influence on economic growth.

This paper aims at reviewing and assessing the *political economy approach* (a.k.a. politico-economic or endogenous fiscal policy approach) which has proposed a third transmission channel through which distribution affects growth: In models endogenizing both economic growth and public policy, income inequality influences the balance of power in the political system in such a way as to generate pressure on the government to increase income redistribution which, in turn, reduces incentives and slows down economic growth. Political economy models of growth and distribution have featured most prominently in the set of theories linking inequality and growth. However, while apparently well founded in economic growth theory and public choice, the conventional political economy view has been challenged on empirical grounds. In particular, Perotti (1996) finds strong empirical support for the positive reduced-form relationship between equality and growth, as well as for the socio-political instability approach, but less empirical support for explanations based on the effects of income distribution on fiscal policy.

The present paper intends to complement Perotti's (1996) empirical assessment by a *theoretical* critique of the politico-economic models of growth and distribution challenging the conventional political economy approach in a more fundamental way.² In the following, we present a number of theoretical arguments demonstrating that all three basic mechanisms the political economy inequality-growth transmission channel crucially hinges on may become invalid, whenever any one of various relevant elements of reality - as discussed in the special literature - is added to the basal politico-economic models. Thus, rather than coming as a surprise, the weak empirical support for endogenous fiscal policy explanations of the effects of income distribution on economic growth is to be expected, since the political economy models of growth and distribution, as well as the politico-economic inequality-growth transmission channel they imply, are overly simplistic and inadequate with respect to the issues studied.

The rest of the paper proceeds as follows. Section 2 briefly surveys the political economy models of growth and distribution and identifies three main building blocks of these models. In sections 3, 4, and 5 each of these model components and the respective

² As such, it takes up in more detail several of the concerns hinted at or sketched by Verdier (1994), Saint-Paul and Verdier (1996) and Saint-Paul (2000).

assumptions it rests on will be examined for their intuitive plausibility, theoretical rigour and empirical validity. Section 6 concludes by providing a summary of results.

2. Crucial model components

Political economy is the study of how politics and the economy are interrelated. One of the most important fields of this interrelation are redistributive conflicts and policies. Without considering growth, Meltzer and Richard (1981) have shown that in a public-choice voting model, a rise in income inequality leads to a higher income tax rate to finance lump-sum redistribution. In the recent literature, two main subsets of politico-economic models can be distinguished which take up this idea in models with investment-driven growth. Persson and Tabellini (1994) focus on the *personal distribution* of income and wealth in a one-factor overlapping-generations growth model. This approach was popularized and given its canonical form by Bénabou (1996) and Aghion and Howitt (1998). On the other hand, Bertola (1993) and Alesina and Rodrik (1994) – in what has come to be called *functional distribution* models – study growth effects of variations in infinite-lived agents' relative endowments with accumulated and non-accumulated factors.

The common feature of all these political economy models is the specific distribution-growth transmission channel they imply: income inequality influences the balance of power in the political system in such a way as to slow down economic growth via increased redistribution and distortionary taxation. Accordingly, the models can be decomposed into three elements: first, a political system in which the citizens' fiscal preferences are aggregated into collective decisions; second, the fiscal instruments available to public policymakers; and third an economic structure formalizing the proposed links between fiscal variables and the economy's growth rate. The negative reduced-form relationship between inequality and growth posited by the political economy approach rests on a three-step reasoning in which each causal stage corresponds to one of the aforementioned model components:

- (1) Rising inequality induces more government redistribution (*political system*);
- (2) More government redistribution is financed by higher distortionary taxation (*fiscal policy instruments*).
- (3) Higher distortionary taxes reduce economic growth (*economic system*).

In the following, each of these logical components of political economy models of growth and distribution will be examined both from a theoretical and an empirical point of view, and it will be shown how plausible modifications and a broadening of the perspective lead to a rejection of each of them.

3. The political system: Does higher inequality lead to more redistribution?

According to politico-economic models of growth and distribution rising inequality implies more redistribution. This political mechanism rests on a four-step reasoning which basically amounts to an application, pioneered in Meltzer and Richard (1981), of the median voter model to choices of taxed-based government redistribution schemes:

- (i) real-world income distributions are skewed to the right, so that the median income is lower than the average one;
- (ii) skewness in income distribution increases with rising inequality inducing a fall in the position of the median income relative to the mean;
- (iii) in a political equilibrium, the preferences of the voter with median income determine fiscal policy; and
- (iv) the citizens' political preferences are exclusively based on their own present incomes.

The first element in the above mechanism can hardly be disputed when looking at empirical evidence.³ The second causal link in the politico-economic reasoning is quite innocuous as well. Saint-Paul and Verdier (1996, p. 720) point to the fact that skewness not necessarily increases for all mean-preserving spreads in income distribution. However, while this may have some relevance for those rises in inequality that are heavily concentrated among the poorest, it poses no general threat to the basic reasoning. Much more serious challenges to the political economy approach result from real-world aspects relating to the last two logical components of the above causal chain.

³ See e.g. the comprehensive empirical survey by Gottschalk and Smeeding (2000).

3.1 The Median Voter Theorem

In the political economy of growth and distribution the political process is modelled as democratic in the sense that the redistributive tax rate is determined by the median voter in a majority vote all citizens participate in. The application of the median voter model seems to be both analytically and normatively attractive. The great analytical advantage of the median-voter approach lies in the fact that *aggregate* social issues can be analysed with reference to the preferences of a single *individual* agent (see Romer and Rosenthal (1979), p. 144). Its normative attraction comes from its vindicating the democratic ideal: governments are perfectly responsive and responsible to their citizens' wishes. Unfortunately, the model suffers from some significant drawbacks in terms of its applicability to the real world and, thus, loses much of its intuitive attractiveness.

First of all, if government redistribution is decided by majority rule, even in a static partial-equilibrium analysis the result will in principal be indeterminate. As Wittman (1995, p. 162f.) notes, such voting is to a great extent marked with the problem of collective intransitivity. Government redistribution is a zero-sum game, and absent a core any outcome can occur. If individuals are selfishly motivated and politically sensitive to even small changes in their incomes, there can be no politically determined income distribution that dominates all other income distributions in a majority vote. Rather, (almost) all conceivable distributions are on the voting cycle of collective intransitivity. To circumvent this difficulty, politico-economic models restrict voters' preferences in such a way that the median voter theorem can be employed. The key assumptions are, first, voters' preferences with respect to redistribution are defined along a single dimension, and, second, each voter's preferences are single-peaked in that one dimension.⁴ It will be shown in section 3.1.1 that in the context of the political economy of growth and distribution preferences will almost inevitably be multidimensional and multi-peaked.

In addition the median voter model suffers from problems with other important aspects of democratic collective choice well known from the literature and highly relevant for growth and distribution, namely intertemporal interdependencies, endogenous political participation, and political delegation. These aspects will be discussed in sections 3.1.2 to 3.1.4.

3.1.1 Multidimensional issues and multi-peaked preferences

The median voter equilibrium in political economy models of growth and distribution hinges on the condition that redistribution can be treated as a one-dimensional issue all voters have single-peaked preferences over. Fulfilment of this condition is assured by constraining the menu of available policy instruments to a linear (or quasi-linear) tax-cum-transfer scheme which can be characterized by a single tax rate and redistributes income from the rich to the poor in an almost monotonous manner.

In the real world, however, government redistribution entails a vast variety of measures and programs, making it a multidimensional political issue. Moreover, single-peaked preferences is a strong assumption, especially if a single issue has several dimensions.⁵ When real-world tax and subsidy programs are generally more flexible, the overall direction of redistribution becomes blurred. As a first and general argument it can be said that, being less restrained by available instruments, the selfish median voter should be expected to take income from both the rich and the poor. Redistribution in a democracy should thus not be monotonously progressive, but rather from the tails of the income distribution to the centre ("Director's Law").⁶

Additionally, politico-economic growth models constrain government redistribution to the use of monetary instruments (taxes and in-cash transfers) only. In reality, however, real government expenditure and transfers in-kind have distributive implications as well. That is true not only for those government expenditure programs that are explicitly redistributive, but also for those in which the distributive impact is only implicit. Aranson and Ordeshook (1981) even assert that all government expenditures have a redistributive component. But even if we restrict our attention to those programs the redistributive aspect of which is more than only tangential, the list is nontrivial. One example of special significance for human-capital driven political growth models is publicly financed education. On the one hand public expenditures for primary and secondary education provide benefits mainly to members of the lower and middle class. On the other hand, it is empirically well-known that public expenditure for tertiary education is highly regressive. The theoretical explanation for this empirical finding lies in the fact that individual utilization of public education requires private resource inputs, in particular forgoing income when attending

⁴ See Mueller (1989), pp. 65f.

⁵ See Mueller (1989), pp. 67ff. for a general discussion.

school. The need to put in one's own resources implies a tendency for the poor to be excluded from benefitting from public education and, hence, raises the probability of redistribution from the poor to the rich, rather than vice versa.

Yet another key constraint of policy instruments in the politico-economic models studied here is that all individuals face the same tax-and-transfer schedule. In reality, transfers are targeted to specific groups of citizens, often with the goal of increasing support for the policymaker giving the transfer. If we drop the constraint on the government to apply the same tax-and-transfer scheme to all agents, what characteristics make a specific group of voters likely targets of redistributive efforts? Dixit and Londregan (1996) present a model in which two parties with different policy preferences compete for groups of voters which base their votes on both a party's position on policy issues and the transfers they receive. Within this structure, a rich variety of results is possible. For example, transfer activity will likely be targeted at swing voters if parties are identical in their ability to subsidize or tax different groups, while it will likely be targeted at core supporters – whom the respective party can tax or subsidize with relatively small deadweight losses –, when parties differ in their ability to transfer resources to specific groups. However, there is no systematic mechanism ensuring government redistribution to occur from the rich to the poor.

In short, the median-voter model's characterization of the direction government redistribution will no longer hold if the menu of available instruments is widened. Some redistribution is in the direction of the rich and much redistribution is difficult to categorize in terms of rich versus poor. Under such circumstances the single-peakedness of the citizens' redistributive preference orderings can no longer be taken for granted, and the median voter equilibrium might well disappear.

Even when focusing on vertical redistribution and tax-policy instruments, the more general features of both a single tax and the tax system as a whole are inherently *multidimensional*. With multidimensional issues, however, majority rule produces a political equilibrium outcome only with overly restrictive additional assumptions.⁷ In general, the core of the political redistribution game is empty: there is no single distributive proposal that would not be dominated by at least one alternative distribution. Under such potentially

⁶ See Mueller (1989), p. 448.

⁷ Snyder and Kramer (1988), Cukierman and Meltzer (1991), as well as Berliant and Gouveia (1993), try to adapt the median voter result for non-linear tax schedules which cannot be characterized by a single tax rate.

unstable conditions it is no longer appropriate to view government redistribution as targeted to the median voter. Rather, redistributive measures will be targeted towards those groups whose voting behaviour is judged to be the most elastic – a reasoning in accordance with what is called *probabilistic voting*. This approach's idea is that the relation between a candidate's political position and his vote total is no longer deterministic. Instead, candidates perceive only a probability that any given voter will support him, a probability which is a function of the candidate's relative political platform and translates into an expected vote total.⁸ On the basis of this voting theory Hettich and Winer (1984, 1997, 1999) develop politico-economic models of taxation in which the multidimensional structure of tax systems can be derived as the government's equilibrium strategy in political competition. Although Hettich and Winer (1999) limit their analysis almost entirely to static tax issues, one of their results is of particular relevance for political economy models of growth: The distribution of tax burdens does not follow any common norms (like e.g. Simons's (1938) "equitable taxation", optimal tax rules or rules from what Hettich and Winer (1999) call "fiscal exchange approach to taxation"), but reflect the politicians' interests to be (re-)elected. Accordingly, those tax-payers will have to bear the heaviest tax burdens whose voting behaviour is least influenced by tax issues, whereas those tax-payers whose voting behaviour is particularly elastic with respect to tax policies will be burdened with the fewest taxes. The individuals' relative income or wealth position, thus, has an effect on the individual's own tax burden only insofar as it influences his or her propensity to make tax policy a decisive issue in his or her voting behaviour. As a result, a more unequal distribution will only lead to increased redistribution if it significantly enhances the poor citizens' voting elasticities with respect to redistributive taxation relative to the rich citizens' ones. This might be the case from time to time, but the systematic mechanism proposed by the political economy models of growth and distribution, according to which higher inequality leads to more redistribution, cannot be derived from that.

All in all, the types of preferences needed to bring about the median voter equilibrium are quite unlikely. In particular, "the median voter result is an artefact" (Hinich (1977)) of the implausible assumption that political issue spaces have a single dimension. If political candidates or parties can compete along two or more dimensions, the median voter

⁸ See Persson and Tabellini (2000), pp. 52ff. for a more extensive discussion of probabilistic voting.

equilibrium disappears and with it the political mechanism on which the results of the political economy models of growth and distribution rest.

3.1.2 Intertemporal interdependencies and rational expectations

The application of the median voter theorem to the dynamic models of the political economy approach requires a suitably simplified political and economic environment. In politico-economic growth models there exists a potential multiplicity of intra- and intertemporal interdependencies. Accordingly, models of this kind are much harder to analyze than their static counterparts and they are one degree more complex than the usual intertemporal models without political components. The main analytical difficulty stems from the dynamic dimension of voting. To rationally form her expectations, a strategically planning voter, at the time of her voting decision, would have to take into account all effects of present political measures on the economy's entire future evolution. Such a requirement comes with both analytical and empirical problems.

Obviously, without heroically simplifying assumptions, a complete strategic voting behaviour is riddled with severe *analytical* complications. Krusell and Ríos-Rull (1996), as well as Krusell, Quadrini and Ríos-Rull (1997) develop a general politico-economic equilibrium concept for dynamic models. It rests on sequential voting which rationally takes into account all future general equilibrium effects. Due to the model's complexity, however, it can only be solved by reverting to numerical solution techniques. In contrast, the approach used in the personal-distribution political growth models is to consider a radically simplified economic environment in which a forward-looking political choice problem becomes analytically tractable. Due to the overlapping-generations structure of the growth models of Persson and Tabellini (1994), Bénabou (1996) and Aghion and Howitt (1998), every agent votes only once and takes no direct interest in the political choices of the following period. Present voters could be indirectly interested in future choices, since expectations of future policies can influence today's and tomorrow's prices that, in turn, directly affect the present generation's economic situation. However, in the political growth models reviewed here the economic environment is simplified in such a manner that every agent can predict all prices relevant to him without any knowledge of future policy choices. Thus, the present median voter neither directly nor indirectly needs to take into account future voting outcomes. While the assumptions of this approach are fairly restrictive, the models' political mechanism according to which higher inequality implies more

redistribution does not seem to depend on these simplifications in any crucial way. In fact, the numerical results obtained in Krusell's, Quadrini's and Ríos-Rull's (1997) more complex intertemporal sequential-voting model are qualitatively consistent with the personal-distribution political growth models' analytical results: Both tax rate and the economy's growth rate are constant along the equilibrium growth path. Furthermore, with an increase in the median voter's relative wealth position, the politically chosen tax rate falls while the growth rate increases.

An alternative approach to determine the politico-economic equilibrium in dynamic models, chosen by the functional-distribution political growth models of Bertola (1993) and Alesina and Rodrik (1994), is to restrict possible policy choices. To be more precise, they assume that a time-invariant policy must be chosen for all time at time zero. Simultaneous validity of both elements of this assumption, namely time-invariance and once-and-for-all choice at time zero, is necessary for the politico-economic equilibrium to exist. With reference to the real world, however, this simultaneous validity seems to be highly questionable. Democratic elections of parliaments or governments are held in periodic turns. Furthermore, tax and redistribution policies are not constitutional issues but decided upon at subsequent stages of the political system. Therefore, redistributive tax rates can, in principle, be changed on a "daily" basis. In this respect, functional-distribution political growth models ignore one of the basic characteristics of democracy, namely that the present government is incapable to irrevocably determine future policies. On the other hand, as argued by Krusell, Quadrini and Ríos-Rull (1997) with reference to their intertemporal sequential-voting model, the requirement of time-consistency implies that the tax path arising from an empirically more relevant period-by-period voting will not be identical to the one arising from a once-and-for-all choice of a constant tax rate at time zero, even if the former results in a constant tax rate. All in all, therefore, the political mechanism in the functional-distribution political growth models of Bertola (1993) and of Alesina und Rodrik (1994), according to which higher inequality implies more redistribution, must be assessed to be an artefact of an overly simplistic model inadequately leaving out relevant aspects of political reality.

The last point already leads into the *empirical* problems associated with the assumption of well-informed strategic voting behaviour. While the rational expectations hypothesis might be a matter of theoretical coherence in choice-theoretically micro-based models of new classical macroeconomics, Saint-Paul (2000, p. 917) warns that "political economy pushes the rationality assumption even further than economics". To be more precise, in

macroeconomic models with no or exogenously given government behaviour private agents need to know those factors "only" that affect economic variables' equilibrium values. Rational expectations in a politico-economic growth model, however, in addition require agents to completely know about how policy measures will affect the economy's behaviour. In particular, economic agents must be able to take account of the general equilibrium effects of government policies. But in a dynamic politico-economic model an economic agent's pay-off is influenced by a policy choice at time t via various channels: first, there is an intratemporal channel through which the pay-off at time t is directly affected by the economy's aggregate resource constraint and indirectly by the general equilibrium effects on factor prices. Secondly, there exist direct intertemporal effects captured by the state-variables' law of motion which have general equilibrium effects on prices. And finally, there are indirect intertemporal effects of present policies on future policies: for instance, present policy measures affect the income or wealth distribution's law of motion which, in turn, influences future policy choices via the political aggregation rule. For the evaluation of certain policy measures occurring stochastically and regularly, like e.g. monetary policy measures, the knowledge of general equilibrium effects may suffice, but for the majority of policy measures this will not be the case. Many government policies are not implemented on a regular basis but are themselves the result of a permanently changing mixture of short-term politics, ideological beliefs and a society's *Zeitgeist* (spirit of the age). The majority of political reforms and measures are, therefore, singular events in history. To adequately evaluate their effects, every citizen would need a complete structural general equilibrium model of the economy – and, in addition, the certainty that this model will work in an environment that has never existed before!

The above reasoning leads into a general dilemma of politico-economic model building: On the one hand it is not possible to represent phenomena stemming from the principal openness and interactive complexity of social systems in a mathematical model the analytical tractability of which presupposes an a-priori reduction of that very complexity. On the other hand, it is the necessity to select in an overly complex social environment and the contingency following from that selection constraint that give birth to a *structural uncertainty* which is a constitutive element of the very ideas of democracy and, in particular, democratic compromise. The vast majority of real-world political conflicts is not simply grounded in opposing but well-informed interests. Rather, many debates on economic and fiscal policy issues come from opposing conceptions and theories about how real-world economies are actually working.

While the essential core of this argument, quite obviously, cannot be captured in a mathematical model, Piketty (1995) provides a notable attempt to illustrate a central aspect of the above ideas in a formal-analytical manner as well as applying it to the issues of inequality and redistribution. He develops a rational-learning model in which voters have conflicting views about redistributive taxation not because they are maximizing different objective functions but rather because, through their various mobility experiences, they estimate the incentive costs of redistributive taxation differently. Rational agents who a priori share the same distributive goals try to learn from their income trajectories both the society's mobility matrix and to what extent individual economic success responds to individual effort. However, complete knowledge about the relative importance of individual effort on the one hand and predetermined factors beyond one's control on the other hand in the generation of inequality would require a lot of costly social experiments. Therefore, it is rational to settle with a certain degree of uncertainty about society's structural parameters which opens up the possibility of different views about the incentive costs of redistributive taxation. Thus, in the long run different mobility experiences lead to a continuum of dynasties differing in their beliefs concerning the socially optimal redistribution rate. On the one hand "left-wing" dynasties, predominantly found in the lower class, believe predetermined factors and social rigidities to shape individual economic success and, thus, supply less effort in the economic system and support higher redistributive taxation in the political system. On the other hand, "right-wing" dynasties, predominantly found in the middle and upper class, believe individual effort to be of paramount importance in the pursuit of economic success and, accordingly, work harder and support less redistribution. Piketty (1995) thus suggests that the main difference between voters is not necessarily their conflicting interests but rather their different conceptions about policies. However, these beliefs are not arbitrary. They rest on different pieces of information the agents have been exposed to during their social life and depending on their respective economic positions. In the final analysis, therefore, the qualitative results derived in politico-economic models of growth and distribution are not necessarily disproved by Piketty's (1995) analysis: albeit now mediated through political beliefs, the poorer "left-wing" citizens still call for more redistribution, while the richer "right-wing" citizens are still opposed to redistributive taxation.

3.1.3 Endogenous political participation

The simple median voter model used by the politico-economic models of growth and distribution assumes every voter to have the same weight in political decision-making. However, as soon as political participation is endogenized or additional factors of influence different from the electoral vote are taken into account, political power starts to be unevenly distributed even in a democracy and the median-income citizen need no longer be the decisive voter. In particular, one can expect political participation and influence to interact with a country's income and wealth distribution in such a way as to undermine the analytical results of the basal median voter model. In many countries, participation increases with the level of income, so that the decisive voter is above the median. As shown by Saint-Paul and Verdier (1996), the decisive voter, then, might well get richer relative to the mean in response to rising inequality and, accordingly, carry through less redistributive taxation. Ades and Verdier (1996) endogenize political participation in an intertemporal model. As political participation is limited by exogenously fixed sunk costs of entry into politics, society disintegrates into two unequal groups of citizens. Rich dynasties with high initial wealth pay the entry costs and form a political elite appropriating rents by levying distortionary taxes. On the other hand, citizens with low initial wealth form the politically inactive masses. As, furthermore, political power is passed on from generation to generation, the long-term equilibrium depends on the initial wealth distribution and the entry costs: unequal societies tend to become closed and experience a political and economic decline accompanied by increasing allocative distortions and social polarization. In the human-capital growth model of Bourguignon and Verdier (1997) also political participation is endogenous: only educated citizens participate in elections. Since, however, human capital accumulation requires payment of a private fixed cost that, due to the absence of a capital market, must be self-financed, poor individuals are excluded from education. Therefore, voting is positively correlated to the level of income (or education). The limited franchise means that, even though low-income citizens are a majority in the population, redistribution will not necessarily be imposed on the rich in a majority voting system. However, due to the existence of an externality in human capital accumulation, the rich may voluntarily transfer income to some of the poor, because it is in their own interest. As a result of this redistribution, a new middle-class will emerge that with increasing numbers will gain political control. Bourguignon and Verdier (1997) show that in their model a number of equilibria is possible, where the most important determinants of the nature of the equilibrium are the size of the educational externality and the degree of

initial income inequality. One result, however, is of special interest for our discussion. Low inequality implies an equilibrium with high growth and income redistribution away from the rich once the middle class gains political control. On the other hand, higher values of initial inequality will imply less (more exactly, *no*) redistribution. The reason is that as the degree of inequality rises, so will the degree of redistribution *if* the rich cede power to a newly created middle class. Therefore, the rich will either limit their education subsidies in such a way as to maintain political control, or they will cede control to the new middle class because the latter will choose zero redistribution, given its distortionary costs. In short, since it induces the rich to block the process of democratization, higher inequality could lead to less redistribution – exactly the opposite of the political mechanism immanent to the political economy growth models in which political participation is exogenous.

3.1.4 Delegation, the principal-agent problem and interest groups

Finally, the median voter theorem directly links actual budgetary policies to the citizens' preferences with respect to redistribution (and growth). In a precise sense these close ties only hold in a model of direct democracy with unlimited franchise. Direct democracy, however, is not descriptive of how collective choices are made in the real world. In any political system with a large number of citizens transaction costs of direct democracy are prohibitively high and, thus, require political delegation and representation. Representative democracy, however, means that – except for the empirically irrelevant case where all voters have identical preferences – citizens have to delegate power to agents who do not have the same preferences over policies as the voters they represent, and yet are entitled to make collectively binding decisions. The median voter theorem trivializes this fundamental *principal-agent problem* in an artificial manner by employing assumptions which ensure that, once elected, governments are perfect agents of their constituencies. Apart from the special set of assumptions under which the median voter theorem remains valid even in indirect democracy, however, politicians possess discretionary latitude with respect to their voters' preferences. A particularly important real-world implication of this discretion is the political influence of *interest groups*. For the issue of redistribution, a notable alternative to the median voter approach is, thus, given by models of interest group competition, as have been developed by Peltzman (1980) and Becker (1983). Like Meltzer and Richard (1981), Peltzman (1980) links the growth of government to the distribution of income. In contrast to the former, however, he does not make use of the

median voter theorem. Rather, he assumes a form of representative government in which candidates compete for votes by promising to redistribute income toward those voters or groups of voters that join the candidate's coalition of supporters. According to Peltzman (1980) the potential supporters of a candidate will have the more bargaining power and will, thus, enforce the more redistribution towards them, the more equal the distribution of income among them. Therefore, in striking contrast to the political mechanism of political economy models of growth and distribution, redistribution will be the larger, the more equal the initial distribution of income.

The linking up of individual political preferences with actual government policies is further loosened when considering alternative theories of political distribution.⁹ For instance, the "*state autonomy*" approach emphasizes governments institutional capacity to act independently of external demands or outside influences. Instead, the state – even under democracy – may supply policies autonomously, whether in the self-interest of state managers or in the interest of the public as interpreted by state managers (see Przeworski (1990), pp. 57ff.). Similar implications follow from *neocorporatist models* of politics, as provided e.g. by Schmitter (1974, 1983), according to which a handful of social associations, in particular trade unions and business organizations, enjoy a virtual and at times legal monopoly of representing functionally defined interests. This monopoly endows these association not only with the external power to enforce their demands in politics, but also with a high degree of internal autonomy and independence with respect to their members' interests and political demands. Finally, most of the Marxist class-conflict theories of democratic politics leave out the democratic part entirely. "*Structural-dependence*" theory asserts that governments face binding constraints on the policies they can pursue which are imposed by the capitalist class and its autonomy and predominant role in the productive sector. Capitalists, in their collective role as investors, have a de facto veto over state policies in that both economic performance (goods supply, economic growth and employment) and political success of state managers crucially depend on their willingness to invest. Citizens' preferences are thus dominated in the political process by the interests of owners of productive assets.¹⁰

⁹ See Przeworski (1990) for a useful survey.

¹⁰ See Offe (1975), Przeworski (1990) or Wittman (1995).

3.2 Political preferences

The final link in the causal chain connecting inequality to government redistribution in political models of growth and distribution proposes that, given the direction of redistribution, voters form their political preferences based exclusively on their present relative income position.

On the one hand, all households with income below average should favour redistribution. Thus, given an income distribution skewed to the right, a logic of exploitation inheres in the median voter theorem: A relatively poor majority should expropriate richer citizens and redistribute the latter's incomes towards themselves. Yet, expropriation of such extent is not known to exist in any real-world democratic system. Moreover, survey evidence indicates that even obvious beneficiaries of government activity do not significantly differ from other voters in their preferences for tax policies.¹¹ How can these empirical results be explained? Political economy models of growth and distribution focus on one conceivable reason only: deadweight losses resulting from taxation. Even a poor voter accepts limits to redistribution whenever economic growth is stimulated to such an extent that growth-induced improvements in her personal goods supply exceed her potential redistributive gains. Musgrave (1988) stresses the middle class's voting behaviour as an additional limit to vertical redistribution. He shows for the three-groups case that only in very polarized societies, in which there is considerable distance between the highest incomes and the two lower-income groups, the latter two will join to politically redistribute parts of the highest incomes toward them. The more equal the initial distribution of income, however, the more probable a coalition of the two higher income groups becomes. This political option, which acts as a limit to vertical redistribution in a democracy, will be of particular empirical relevance in countries where a huge part of the electorate consider themselves to be members of the middle class. A third conceivable explanation of the empirical no-exploitation result for real-world democracies is given by the so-called "prospect of upward mobility" (POUM) hypothesis: Even the relatively poor citizens with income below average do not support high redistributive taxes because they hope that they, or their offspring, may move up in the income distribution and may therefore be hurt by such policies. Putterman et.al. (1998, p. 895) believe – as other economists before have concluded as well – that "voting against wealth taxation to preserve the good fortune of one's family in

¹¹ See Courant, Gramlich and Rubinfeld (1980) as well as Gramlich and Rubinfeld (1982).

the future cannot be part of a rational expectations equilibrium, unless the deadweight loss from taxation is expected to be large or voters are risk loving over some range". However, Bénabou and Ok (2001) show the POUM hypothesis to be perfectly compatible with economic agents who hold rational expectations over their income prospects. In their stochastic-endowment model economy there exists a range of incomes below the mean where agents oppose lasting redistribution if tomorrow's expected income is an increasing and concave function of today's income. Under these circumstances, even the median voter may oppose redistribution whenever either the concavity of the income transition function (connecting today's to tomorrow's income) or the length of time for which taxes are preset are significant enough.

On the other hand, redistribution may – at least up to a certain extent – be supported even by those who via taxation lose income, i.e. by higher-income citizens. For their acceptance of government redistribution two rather different motivations are conceivable: Firstly, someone who is not poor today, may well become poor tomorrow. Where private provision of insurance against future income risks is prevented by market failures that result from asymmetric information, risk-inverse agents will demand government redistribution as a means of social insurance (see Barr (1992) or Sinn (1995)). If voters are uncertain about their income at the time they choose a tax-transfer income, redistribution of income ex post will be motivated by the desire to share risk ex ante. In a political equilibrium, this will change the voting behaviour of a particular sub-group of voters: those citizens with incomes at or slightly above the average will now support a higher tax rate, due to the social insurance character of government redistribution. Second and more importantly, the median-voter theorem's implicit assumptions about voters' preferences contain a fundamentally flawed specification that touches upon a second constitutive characteristic of democracy. The economic theory of democracy assumes that individual political preferences are fixed and cannot be changed through the political process. In this perspective, the political decision process serves only to reveal and aggregate exogenously determined individual preferences. Sen (1977), among others, points to the fact that individuals' preferences can be altered in the political process by social interaction and, in particular, communication with others. The democratic political process is, according to this view, not "only an arena, where actors with given interests fight to promote them", but rather "an *agora*, where individuals discover through discursive interactions what their collective identities and thus their interests are" (Przeworski (1990), p. 23f.). The latter argument amounts to one of the constituting ideas of democracy as

elaborated during the 18th century and eventually translated into the first modern democratic institutions. Both in Rousseau's conception of a *volonté general* and the American revolutionary thought, individual preferences were conceived to be not simply revealed and aggregated, but rather transcended in an institutionalized pursuit for the single common good. The implications of such an understanding of democracy have early been noted by Buchanan (1954, p. 120): "The definition of democracy as 'government by discussion' implies that individual values can and do change in the process of decision-making". While invoked as their intellectual father by public-choice theorists, Schumpeter (1975, p. 263), as a matter of fact, shares this perspective on the political process, insisting that: "What we are confronted with in the analysis of political process is largely not a genuine but a manufactured will ... the will of the people is the product and not the motive power of the political process". With respect to this aspect of reality, the political economy models of growth and distribution are fundamentally flawed. Neither the majority rule in a direct democracy nor models of party competition can be based on the assumption that the distribution of preferences is something given independently to the political competition. Rather, this distribution is a contingent outcome of, among others, this very competition. For this reason, public debate and social interaction play such a tremendous role in shaping social values and obligations. For instance, with respect to the issues under review here, Fong (2001) using social survey data finds that, contrary to the specifications in the politico-economic growth models, self-interest alone cannot explain individual redistributive preferences. Rather, attitudes to redistribution are heavily influenced by social values and beliefs about distributive justice. In particular, citizens support redistribution to the poor if they believe poverty to be caused by circumstances beyond the individual's control. Therefore, even among the rich one may find high levels of support for (certain) redistributive programs.

4. Fiscal instruments: Does more redistribution imply higher distortionary taxation?

In addition to the political mechanism implied, the results of the political economy models of growth and distribution crucially hinge on the specific menu of available fiscal policy instruments. In these models public policymakers can pursue their distributive goals with distortionary instruments only. Accordingly, any redistribution-motivated fiscal policy unavoidably leads to incentive distortions and losses of efficiency and growth. As discussed before, however, real-world governments have more than only one instrument available for redistribution. The problem that allocative effects depend upon the menu of available policy instruments is, of course, well-known from the literature on optimal taxation. In an "ideal" first-best world the Second Theorem of Welfare Economics guarantees any point on an economy's utility possibilities frontier to be feasible with the help of a lump-sum tax system. Accordingly, government redistribution would be able to bring about any desired distribution without losses in terms of allocative efficiency. In more complex dynamic settings, however, such a textbook separation of distribution and allocative efficiency is no longer feasible: A *lump-sum* redistribution would be conceivable only at the very beginning of time as a once-and-for-all wealth taxation; however, in an ongoing dynamic environment where binding and complete intertemporal contracts are not available, such a tax policy is dynamically inconsistent, cannot be credibly implemented and, thus, loosens the link between individual supply decisions and individual consumption levels. Allocative efficiency and distributional issues are, therefore, inevitably intertwined.

Even if government redistribution policy has to rely on distortionary instruments, a conflict between allocative efficiency and economic growth on the one hand and a more equal distribution on the other hand may nevertheless be avoided, provided that the menu of available policy instruments is wide enough. Irrespective of their income, economic agents unanimously agree that efficiency should be achieved. This objective, therefore, is not in conflict with the agents' heterogeneous incentives to redistribute income, as long as the latter can be pursued by a separate instrument. In particular, allocative efficiency and high economic growth can be maintained by suitably arranged subsidy payments, even if tax rates are chosen according to distributive goals. To be more precise, in the political economy growth models of the personal-distribution type, where capital accumulation is the ultimate driving force of economic growth, it is both possible and enforceable in a democratic political system to combine progressive income taxation with a consumption

tax and investment subsidies in such a way as to keep factor accumulation and growth at the desired level.¹² A related conclusion can be drawn with respect to the functional-distribution type of political growth models. In Bertola's (1993) two-factors model, capital-poor individuals quite naturally vote against policies that raise the economic growth rate by reducing their share of aggregate income. However, if redistribution is carried out by subsidizing investment instead of taxing factors, growth and inequality are positively correlated: Poor agents support growth-enhancing investment subsidies, while rich individuals oppose it, since it lowers the value of the existing capital stock. Accordingly, redistribution and growth rate are the higher, the poorer the median voter is relative to the average one.

5. The economic system: Is more redistribution harmful to growth?

The third and final mechanism linking more inequality to less growth in intertemporal political economy models is that higher taxation which accompanies an increase in redistribution affects growth negatively. While this proposed negative growth effect is in accordance with conventional public-finance textbook wisdom on the partial-equilibrium effects of tax policies with respect to labour supply and savings, it is far from being incontrovertible from an empirical point of view. In particular, Sala-i-Martin (1997) and Perotti (1996) have both found empirically that there are positive correlations between redistributive government expenditure and various tax rates on the one hand and economic growth on the other hand. In the following we will survey four theoretical arguments why more government redistribution is not necessarily harmful to economic growth.

5.1 Imperfect capital markets and externalities

In political economy growth models of the personal-distribution type the negative growth effect of rising inequality crucially depends on the assumption of perfect capital markets. Opportunity costs of an investment, namely the interest rate, are the same for both creditors and debtors. Accordingly, investment incentives are solely determined by after-tax private returns, and even a threat to tax parts of these returns suffices to depress capital accumulation and hence growth. Things change, however, when government

¹² See Bénabou (1996) for a formal demonstration of this statement.

redistribution serves as an institutional substitute for missing or less than perfect markets. When, for instance, poor economic agents are liquidity constrained and hence are not able to invest in cumulative factors which are the engines of economic growth, redistribution of income to the poor helps them to overcome the constraints implied by capital market imperfections, thereby increasing accumulation of productive factors and thus the growth rate.

A second reason why redistribution may enhance growth are positive externalities in the process of capital accumulation. In both the theory and empirics of economic growth, human capital is seen as an important engine of growth which is associated with significant externalities in its process of accumulation. Accordingly, increased education investments by the direct beneficiaries of redistribution may have a positive effect on those being taxed as well, implying the prospect of both a positive growth effect and an aggregate welfare gain from redistribution.¹³

5.2 Life-cycle effects of taxation

With respect to the functional-distribution political growth models of Bertola (1993) and Alesina and Rodrik (1994), where individuals (or dynasties) differ in the composition of their income across factors, dropping the assumption of consumers' infinite horizons can equally turn the growth effects of tax policy. Bertola (1996) and Uhlig and Yanagawa (1996) show that in models with finite individual lifetimes an equal-revenue tax shift from labour to capital income may actually raise the economic growth rate. This rests on the fact that individual wealth portfolios follow a typical life-cycle pattern. Without inheritance, newly born agents at first must build up a capital stock out of their labour income. Hence capital incomes are in their vast majority received by old agents. Taxing capital income higher, while at the same time lowering the burden on labour income leaves young agents with higher disposable incomes to finance their savings. The overall effect on capital accumulation, therefore, may well be positive.

¹³ See Perotti (1993) as well as Saint-Paul and Verdier (1993) for growth models which combine capital market imperfections and externalities in the process of human capital accumulation with the politics of redistribution.

5.3 Demand composition effects

Whenever preferences are not homothetic, an additional channel through which redistribution may have a positive effect on growth comes into play in that aggregate demand now is influenced by income and wealth distribution (see Saint-Paul and Verdier (1996), p. 726). According to Murphy et.al. (1989), on the one hand in the early phase of industrialization enough initial wealth has to be available to help industries to cover their fixed costs. On the other hand, aggregate wealth should be distributed broadly enough to generate a strong demand for a broad range of manufactures. Thus, at least at this stage of development, redistribution can have a positive effect on economic growth when it helps to create an economically important middle class.

5.4 Crime, social capital, and social background conditions for economic growth

Criminal and other deviate behaviour or non-compliance to social norms reduce the security of property rights in an economy, thereby discouraging the accumulation of productive factors. When in a society the gap between rich and poor widens, the opportunity costs of criminal activities are decreased for those poorly endowed with productive abilities, while at the same time their potential gains from crime increase. The resulting increase in criminal activities makes property rights less secure which, in turn, discourages investment, thereby impeding economic growth (see Josten (2001)). Thus, another rationale for positive growth effects of government redistribution is that transfer payments keep (poor) citizens from such activities which are socially harmful and diminish incentives to invest.

In general, one can expect the economic development of a country to be supported or constrained by society (see Temple and Johnson (1998)). The concept of social capital provides a useful umbrella term that tries to capture the intuitive idea that resources embedded in social networks of mutual trust and willingness to co-operate are important determinants of long-run economic success and growth. As empirical evidence (e.g. Knack and Keefer (1997)) suggests, the quantity and quality of a nation's social capital is, in turn, sensitive to the extent of social and economic inequality in that country. Therefore, another reason why redistribution might be positively associated with economic growth is that it helps to strengthen the "social fabric" with positive effects on economic performance and intertemporal goods supply (see Josten (2002) for a formal model).

6. Conclusion

This paper has reconsidered the political economy approach to growth and distribution according to which (1) rising inequality induces more government redistribution, (2) more government redistribution is financed by higher distortionary taxation, and (3) higher distortionary taxes reduce economic growth. We have presented a variety of theoretical arguments demonstrating that all three propositions may be overturned by simply changing an assumption in a plausible way or adding a relevant real-world element to the basal models.

In general, the results obtained in political economy models of growth and distribution are not sufficiently robust against variations in the models' logical components. In particular, it has been shown above that the association between inequality and growth changes its sign, whenever:

- political preferences are endogenous;
- the political influence of interest groups is taken into account;
- the menu of available policy instrument is widened;
- capital markets are imperfect; or
- social background conditions interact with inequality.

Furthermore, the following alternative specifications of model components:

- multidimensional tax policy decisions;
- net distribution effects of a wider menu of policy instruments; or
- political role of the middle class

no longer allow to derive a systematic tendency that "more inequality implies less growth", i.e. they are compatible both with growth increasing as well as growth decreasing effects of (initial) inequality.

Transcending the particular model context, the political economy approach has been shown to suffer from three fundamental misspecifications of the democratic political process. First, it cannot adequately represent the phenomenon of structural uncertainty that stems from the principal openness and interactive over-complexity of modern society. Second, the median voter theorem trivializes the principal-agent problem fundamental to any representative democracy. Third and finally, the economic theory of democracy does

not take into account that the distribution of political preferences is not something given independently to the political competition, but rather is a contingent outcome of, among others, this very competition. All three misspecifications touch upon aspects of reality which are constitutive elements of the idea and concept of democracy. Therefore, it is of particular relevance for the appropriateness of the political economy models for studying real-world issues that most of their central results cease to hold, as soon as any one of these constitutive elements of democracy is added to the basal models.

All in all, though the notion of inequalities in income and wealth being the major factor inducing political pressure for redistribution seems to be intuitively plausible, in the real world the interactions between inequality, government redistribution and economic growth are far more complex and, thus, more subtle than suggested by the conventional political economy perspective. Accordingly, from a theoretical point of view the little empirical support for the political economy approach does not come as a surprise. The political economy models of growth and distribution, as well as the politico-economic inequality-growth transmission channel they imply, must be assessed as overly simplistic and inadequate with respect to the issues studied. Explanations of the positive empirical reduced-form relationship between equality and growth will have to be found elsewhere.

References

- Ades, A., Verdier, T., 1996. The Rise and Fall of Elites: Economic Development and Social Polarization in Rent-Seeking Societies. CEPR Discussion Paper 1495.
- Aghion, P., Bolton, P., 1997. A Theory of Trickle-Down Growth and Development. *Review of Economic Studies* 64, 151-172.
- Aghion, P., Howitt, P., 1998. *Endogenous Growth Theory*. MIT Press, Cambridge, Mass.
- Alesian, A., Perotti, R., 1996. Income Distribution, Political Instability, and Investment. *European Economic Review* 40, 1203-1228.
- Alesina, A., Rodrik, D., 1994. Distributive Policies and Economic Growth. *Quarterly Journal of Economics* 109, 465-490.
- Aranson, P.H., Ordeshook, P.C., 1981. Regulation, Redistribution, and Public Choice. *Public Choice* 37, 69-100.
- Banerjee, A., Newman, A., 1993. Occupational Choice and the Process of Development. *Journal of Political Economy* 101, 274-298.
- Barr, N., 1992. Economic Theory and the Welfare State: A Survey and Interpretation. *Journal of Economic Literature* 30, 741-803.
- Becker, G.S., 1983. A Theory of Competition among Pressure Groups for Political Influence. *Quarterly Journal of Economics* 98, 371-400.
- Bénabou, R., 1996. Inequality and Growth. *NBER Macroeconomics Annual* 11, 11-74.
- Bénabou, R., Ok, E.A., 2001. Social Mobility and the Demand for Redistribution: The POUM Hypothesis. *Quarterly Journal of Economics* 116, 447-487.
- Benhabib, J., Rustichini, A., 1996. Social Conflict and Growth. *Journal of Economic Growth* 1, 125-142.
- Bertola, G., 1993. Market Structure and Income Distribution in Endogenous Growth Models. *American Economic Review* 83, 1184-1198.
- Bertola, G., 1996. Factor Shares in OLG Models of Growth. *European Economic Review* 40, 1541-1560.
- Bourguignon, F., Verdier, T., 1997. Oligarchy, Democracy and Growth. DELTA Working Paper.
- Buchanan, J.M., 1954. Social Choice, Democracy, and Free Markets. *Journal of Political Economy* 62, 114-123.
- Courant, P.N., Gramlich, E.M., Rubinfeld, D.L., 1980. Why Voters Support Tax Limitations Amendments: The Michigan Case. *National Tax Journal* 33, 1-20.
- Dixit, A., Londregan, J., 1996. The Determinants of Success of Special Interests in Redistributive Politics. *Journal of Politics* 58, 1132-1155.
- Fong, C., 2001. Social Preferences, Self-interest, and the Demand for Redistribution. *Journal of Public Economics* 82, 225-246.
- Galor, O., Zeira, J., 1993. Income Distribution and Macroeconomics. *Review of Economic Studies* 60, 35-52.

- Gottschalk, P., Smeeding, T.M., 2000. Empirical Evidence on Income Inequality in Industrial Countries. In: Atkinson, A.B., Bourguignon, F., Handbook of Income Distribution, Vol.1. Elsevier, Amsterdam et.al., 261-307.
- Gramlich, E.M., Rubinfeld, D.L., 1982. Voting on Spending. *Journal of Policy Analysis and Management* 1, 516-533.
- Hettich, W., Winer, S.L., 1984. A Positive Model of Tax Structures. *Journal of Public Economics* 24, 67-87.
- Hettich, W., Winer, S.L., 1997. The Political Economy of Taxation. In: Mueller, D.C. (ed.), *Perspectives on Public Choice*. Cambridge University Press, Cambridge (U.K.), 481-505.
- Hettich, W., Winer, S.L., 1999. *Democratic Choice and Taxation*. Cambridge University Press, Cambridge (U.K.).
- Hinich, M.J., 1977. Equilibrium in Spatial Voting: The Median Voter Result is an Artifact. *Journal of Economic Theory* 16, 208-219.
- Josten, S.D., 2001. Inequality, Crime, and Economic Growth. A Classical Argument for Distributional Equality. UFAF-IPF Working Paper (presented at the EPCS Annual Conference 2002).
- Josten, S.D., 2002. Social Capital, Inequality, and Economic Growth. UFAF-IPF Working Paper.
- Knack, S., Keefer, P., 1997. Does Social Capital Have an Economic pay-off? A Cross-Country Investigation. *Quarterly Journal of Economics* 112, 1252-1288.
- Krusell, P., Quadrini, V., Ríos-Rull, J.-V., 1997. Politico-economic Equilibrium and Economic Growth, *Journal of Economic Dynamics and Control* 21, 243-272.
- Krusell, P., Ríos-Rull, J.-V., 1996. On the Size of U.S. Government: Political Economy in the Neoclassical Growth Model. *American Economic Review* 89, 1156-1181.
- Meltzer, A., Richard, S., 1981. A Rational Theory of the Size of Government. *Journal of Political Economy* 89, 914-927.
- Mueller, D.C., 1989. *Public Choice II*. Cambridge University Press, Cambridge (U.K.).
- Murphy, K., Schleifer, A., Vishny, R., 1989. Income Distribution, Market Size and Industrialization. *Quarterly Journal of Economics* 104, 532-564.
- Musgrave, R., 1988. Wahlverhalten als Grenze der Umverteilung?. In: Zimmermann, H. (Hrsg.), *Die Zukunft der Staatsfinanzen*. Marburger „Forum Philipinum“, Stuttgart, 195ff.
- Offe, C., 1975. The Theory of the Capitalist State and the problem of Policy Formation. In: Lindberg, L.N. et.al. (eds.), *Stress and Contradiction in Modern Capitalism*. Lexington Books, Lexington.
- Okun, A.M., 1975. *Equality and Efficiency*. Brookings Institution, Washington.
- Peltzman, S., 1980. The Growth of Government. *Journal of Law and Economics* 23, 209-288.
- Perotti, R., 1993. Political Equilibrium, Income Distribution, and Growth. *Review of Economic Studies* 60, 755-776.
- Perotti, R., 1996. Growth, Income Distribution, and Democracy: What the Data Say. *Journal of Economic Growth* 1, 149-187.

- Persson, T., Tabellini, G., 1994. Is Inequality Harmful for Growth? Theory and Evidence. *American Economic Review* 48, 600-621.
- Persson, T., Tabellini, G., 2000. *Political Economics*. MIT Press, Cambridge (Mass.) and London.
- Piketty, T., 1995. Social Mobility and Redistributive Politics. *Quarterly Journal of Economics* 110, 551-584.
- Przeworski, A., 1990. *The State and the Economy under Capitalism*. Harwood Academic Publishers, Chur et.al.
- Putterman, L., Roemer, J.E., Silvestre, J., 1998. Does Egalitarianism Have a Future?. *Journal of Economic Literature* 36, 861-902.
- Romer, T., Rosenthal, H., 1979. The Elusive Median Voter. *Journal of Public Economics* 12, 143-170.
- Saint-Paul, G., 2000. The "New Political Economy": Recent Books by Allen Drazen and by Torsten Persson and Guido Tabellini. *Journal of Economic Literature* 38, 915-925.
- Saint-Paul, G., Verdier, T., 1993. Education, Democracy, and Growth. *Journal of Development Economics* 42, 399-407.
- Saint-Paul, G., Verdier, T., 1996. Inequality, Redistribution, and Growth: A Challenge to the Conventional Political Economy Approach. *European Economic Review* 40, 719-728.
- Sala-i-Martin, X., 1997. Transfers, Social Safety Nets, and Economic Growth. *IMF Staff Papers* 44, 81-102.
- Schmitter, P.C., 1974. Still the Century of Corporatism?. *Review of Politics* 36, 85-131.
- Schmitter, P.C., 1983. Democratic Theory and Neocorporatist Practice. *Social Research* 50, 885-928.
- Schumpeter, J.A., 1975. *Capitalism, Socialism and Democracy*. Harper, New York.
- Sen, A., 1977. Social Choice Theory: A Re-examination. *Econometrica* 45, 53-89.
- Simons, H.C., 1938. *Personal Income Taxation: The Definition of Income as a Problem of Fiscal Policy*. University of Chicago Press, Chicago.
- Sinn, H.W., 1995. A Theory of the Welfare State. *Scandinavian Journal of Economics* 97, 495-526.
- Temple, J., Johnson, P.A., 1998. Social Capability and Economic Growth, *Quarterly Journal of Economics* 113, 966-990.
- Uhlig, H., Yanagawa, N., 1996. Increasing the Capital Tax May Lead to Faster Growth. *European Economic Review* 40, 1521-1540.
- Verdier, T., 1994. Models of Political Economy of Growth: A Short Survey. *European Economic Review* 38, 757-763.
- Wittman, D., 1995. *The Myth of Democratic Failure*. University of Chicago Press, Chicago and London.